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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,201	03/04/2002	Paul E. Brunemeier	M-12347 US	8606

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EXAMINER

ROBERTSON, JEFFREY

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/092,201	BRUNEMEIER ET AL.	
	Examiner	Art Unit	
	Jeffrey B. Robertson	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 17-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>0302</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show reference number 36 as described in the specification on page 11. In addition reference number 16 is not present in the drawings as described on page 12, line 1. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Figures 5C, 5F, 5I, 5J, and 5M are not completely readable in the copy in front of the examiner present in the application file. In particular, there appears to be many reference numbers missing in Figures 5C, 5F, and 5I.

Election/Restrictions

2. Applicant's election without traverse of claims 1-16, Group I is acknowledged.
3. Claims 17-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the response of 9/12/2003.

Specification

4. The disclosure is objected to because of the following informalities: on pages 6 and 7, the status of 09/782,985 should be updated.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, applicant sets forth that the physical properties of the inhomogeneous material are "substantially determined" by the second component. The examiner was unable to locate a definition of substantially determined in the specification. It is not clear as to what degree would satisfy the claim limitation of substantially determined. In other words, it is not known how close the properties of the inhomogeneous material must be to the second component to satisfy the claim limitations. Therefore, the claim is indefinite.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Nevoret et al. (U.S. Patent No. 6,599,177).

For claim 1, in column 3, lines 4-20, Nevoret teaches abrasive particles (applicant's second component) that are dispersed in a matrix of a cured resin (applicant's first component). The resin matrix is described as a radiation curable resin and therefore exhibits a predetermined response to radiation. The material is homogeneous because there is a resin component and a particle component. Since the material is used as an abrasive, the examiner's position is that the physical properties are substantially determined by the second material, i.e. the abrasive particles. For claim 14, the physical property of abrasiveness is a macroscopic property.

9. Claims 1-3, 6, 8, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Jia (US 2002/0198282).

For claim 1, in paragraph [0010], Jia teaches the use of polymerizable unsaturated resins that would correspond to applicant's first component. For claims 1, 6, 8, and 13, in paragraph [0012] Jia teaches the use of a polymerization initiator and that UV-initiated cure is acceptable. For claim 1, in paragraph [0016], Jia teaches the use of POSS fillers, applicant's second component. For claims 2 and 3, in paragraph [0022], Jia teaches that the composition is 60-90% filler. It is the examiner's position that the amounts of the components in the composition would result in the physical properties being substantially like the second component due to the majority of the composition containing the filler. In addition, the inhomogeneous nature would result from this mixture as an inherent property. "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the

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properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

10. Claims 1-3, 11, 12, and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Gaynor (U.S. Patent No. 6,329,062).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

It is noted for the purposes of this rejection the "predetermined response to radiation" is no response to radiation.

For claim 1, in column 2, lines 55-63, Gaynor teaches that there is a two component material that contains a binder (applicant's first component) and silicate crystals (applicant's second component). In column 4, lines 52-56, Gaynor teaches that the binder material crosslinks and glues the silicalite nanocrystals together. For claims 1-3, Gaynor teaches in column 5, line 58 through column 6, line 8 that the concentration of silicalite is typically about 20% while the concentration of binder is 0.5-5%. Therefore there is a majority of component 2 and a minority of component 1. It is the examiner's position that the amounts of the components in the composition would result in the physical properties being substantially like the second component due to the majority of the composition containing the filler. In addition, the inhomogeneous nature would

result from this mixture as an inherent property. "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

For claims 14-16, in column 5, lines 24-27, Gaynor teaches that the dielectric constant of the material is in the range of 2.2-2.6. For claims 11-12, in column 3, lines 54-62, Gaynor teaches that the second component is silicalite.

Allowable Subject Matter

11. Claims 4, 5, 7, 9 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. For claims 4 and 5, none of the cited references teaches or suggests a ratio in size of the two components. For claim 7, none of the references cited teach that a predetermined response to radiation would be dissociation. For claims 9 and 10, Jia is the closest prior art. Although Jia teaches the use of methacrylate silsesquioxanes, Jia does not teach or suggest the use of silsesquioxanes as the binder component.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gaynor et al. (U.S. Patent No. 6,533,855), Asakawa et al. (U.S. Patent No. 6,565,763), Van Cleemput et al. (U.S. Patent No. 6,576,345), Hogle et al. (US 2002/0192980), and Albano et al. (US 2003/0054115) are cited for general interest.

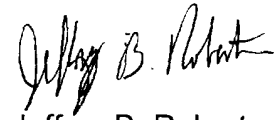
13. If a copy of a provisional application listed on the bottom portion of the accompanying Notice of References Cited (PTO-892) form is not included with this Office action and the PTO-892 has been annotated to indicate that the copy was not readily available, it is because the copy could not be readily obtained when the Office action was mailed. Should applicant desire a copy of such a provisional application, applicant should promptly request the copy from the Office of Public Records (OPR) in accordance with 37 CFR 1.14(a)(1)(iv), paying the required fee under 37 CFR 1.19(b)(1). If a copy is ordered from OPR, the shortened statutory period for reply to this Office action will not be reset under MPEP § 710.06 unless applicant can demonstrate a substantial delay by the Office in fulfilling the order for the copy of the provisional application. Where the applicant has been notified on the PTO-892 that a copy of the provisional application is not readily available, the provision of MPEP § 707.05(a) that a copy of the cited reference will be automatically furnished without charge will not apply.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read "Jeffrey B. Robertson".

Jeffrey B. Robertson
Examiner
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JBR